Oral and Periodontal Conditions of the Macuxi Ethnic Group

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Dear Editor-in-Chief

Indigenous demographic data reveal that the current Brazilian indigenous population is 896,900, distributed in 305 ethnic groups speaking 274 native languages. In state of Roraima, the largest population is Macuxi Indians, with approximately 23,658 individuals (1). The highest prevalence of clinical attachment level (CAL) and probing depth (PD) occurs in aged individuals affected by mild-moderate periodontal diseases and the emergence of these diseases occurs intrinsically for socioeconomic and cultural reasons, including contact with non-indigenous civilizations (2-4).

We aimed to perform an epidemiological survey of oral health conditions in an indigenous population using Decayed, Missing and Filled Teeth (DMFT) and periodontal indices at the state of Roraima in 2018, to provide data to support basic oral health measures and to elaborate operational planning.

This study was submitted to the presidency of the Indigenous Health District Councils (*CONDISI*), head of Indigenous Health House (*CASAI*), National Ethics Research Council (*CONEP* # 1.998.028) and clinical tried (NCT03660420). They participated voluntarily in the study after signing an informed consent form. The data collection methodology was based on SB Brasil 2010 (1), to ensure uniformity of the interpretation of data. The clinical parameters evaluated were the periodontal: PD, CAL, plaque index (PI) and gingival index (GI). The DMFT indices were based on the visual examination of carious cavities. The subjects were divided according to the following age groups: Group 1 (19 - 34 yr old); Group 2- (35 - 44 yr old); and Group 3 (over 45 yr old). For statistical evaluation, analysis of variance was used to compare the mean clinical values.

A total of 200 indigenous were evaluated and 66 were included. Their age ranged from 19 to 69 yr old (34.03 ± 12.45). After statistical treatment, only PD had no difference between the groups. CAL were higher in Group 3 than in Groups 1 and 2, whose difference was statistically significant ($P < 0.0001$) with no difference between Group 1 and Group 2. PI was higher in Group 3 than in Groups 1 and 2, with statistically significant differences ($P = 0.0026$) between Groups 3 and 1 as well as between Groups 3 and 2 (Table 1). DMFT index, the overall age group of 17 to 69 yr had a mean score of 12.64, in which 4.01 (31.7%) represented decayed teeth, 7.03 (55.6%) missing teeth and only 1.59 (12.7%) filled teeth (Table 2). Only PD had a non-statistical significance, which is also in agreement with others studies (4, 6). According to SB Brazil 2010 (1), the Brazilian population has a prevalence of GI increasing up to the age group of 35-44 yr, reach-

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ing half of these individuals, and then decreasing until reaching less than one-fifth. In the Macuxi community, the prevalence of GI is increasing in group 1, with a slight increase in the age group 2, with a significant jump among individuals' group 3.

Table 1: Mean and standard deviation of periodontal parameters

Groups	N	PD (mm)	CAL (mm)	GI Mean (SD)	PI Mean (SD)
Group 1	37	1.50 [a]± 0.37	1.71[a]± 0.41	0.14[a] ± 0.04	0.61[a] ± 0.08
Group 2	15	1.52 [a]± 0.23	1.87[a]± 0.47	0.16[a] ± 0.04	0.61[a] ± 0.08
Group 3	14	1.44 [a]± 0.50	2.81[b]± 1.19	0.25[b] ± 0.13	0.71[b] ± 0.10

Equal letters without difference and different letters mean difference. Tukey test ($P \leq 0.05$)

Table 2: DMFT data divided by parameters and ages

Variable	n	D	M	F	DMFT
Group 1	37	3.89	3.13	1.83	8.86
Group 2	15	4.42	8.42	2.28	15.14
Group 3	14	3.93	15.33	0.33	19.60
Total	66	4.01	7.03	1.59	12.63

This is probably due to the introduction of habits, which make the traditional indigenous hygieniza-tion methods ineffective, especially in view of the increasing introduction of sugary, and pastry foods. According to SB Brazil 2010 (1), PD were rare as they affect less than 1% of the group 1, less than 7% of adults and approximately 3% of elder-ly. This corroborates our study as deep PD are rarely found among the Macuxi, even in the elder-ly individual's remaining teeth (3,6).

The oral health conditions of the Macuxi ethnic group were characterized by high dental caries in-dex and mild periodontal disease. Therefore, pre-ventive measures regarding sugar consumption and oral hygiene should be implemented, includ-ing follow-up studies to gain a more accurate pic-ture of the actual oral health status of them.

Conflict of interest

The authors declare that there is no conflict of interest.

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